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SECOND KEYNOTE ANNOUNCED FOR SPE® ACCE 2022 EVENT: –

“OPPORTUNITIES FOR COMPOSITE MATERIAL IN FUTURE MULTI-MATERIAL BATTERY ENCLOSURES”

Warden Schijve, Design Leader, AZL Aachen GmbH

TROY (DETROIT), MICH. - The planning committee for the [SPE® Automotive Composites Conference & Expo](#) (ACCE) is announcing the second keynote speaker for their ACCE 2022 event September 7 – 9, 2022 at the Suburban Collection Showplace in Novi, Michigan (Detroit suburb). Warden Schijve, Design Leader at AZL Aachen GmbH will present “Opportunities for Composite Material in Future Multi-Material Battery Enclosures.” Warden led a one-year consortium project at AZL Aachen with 46 participating companies on multi-material battery casing designs. It yielded 20 different concept designs that were CAE analyzed to all relevant load cases and compared on cost and weight with a state-of-the-art metal (welded aluminum) design. The keynote presentation will highlight the project results including analysis and comparisons of both thermoset and thermoplastic materials, solid laminate and sandwich solutions, short fiber overmolded solutions, various SMC options, steel, aluminum, and combinations of all these materials. All relevant load cases were considered in the CAE analysis, as defined by safety regulations, in combination with specific OEM requirements. “In total, 20 different multi-material concepts were optimized on weight and cost and compared to the aluminum battery enclosure design,” said Schijve. “All production steps were cost-modelled in detail to obtain reliable cost estimates for each variant,” continued Schijve. “As a result, each battery enclosure concept including composite materials resulted in different weight savings of up to 36% and cost savings up to approximately 20%, in comparison to the aluminum design,” added Schijve.

Due to new requirements on fire resistance during thermal runaway, the presentation will also highlight experimental fire testing on different materials and protective layers currently being performed. This testing includes measurement of material strength under fire loading. Next to this, high-speed foreign object bottom penetration resistance of various material solutions are also being tested, to better estimate protection levels for future battery pack layouts such as cell-to-pack.

About the SPE ACCE

Held annually in suburban Detroit, the ACCE draws over 800 speakers, exhibitors, sponsors and attendees and provides an environment dedicated solely to discussion, education and networking about advances in transportation composites. Its global appeal is evident in the diversity of exhibitors, speakers, and attendees who come to the conference from Europe, the Middle East, Africa, and Asia/Pacific as well as North America. About 20% of attendees work for automotive and light truck, agriculture, truck & bus or aviation OEMs and another 25% represent tier suppliers. Attendees also work for composite materials processing equipment, additives, or reinforcement suppliers; trade associations, consultancies, university and government labs; media; and investment banks. ACCE has been jointly produced by the SPE Automotive and Composites Divisions since 2001. For more information and the SPE ACCE see <https://speautomotive.com/acce-conference/>.

The mission of SPE is to promote scientific and engineering knowledge relating to plastics worldwide and to educate industry, academia, and the public about these advances. SPE's Automotive Division is active in educating, promoting, recognizing, and communicating technical accomplishments in all phases of plastics and plastic-based composite developments in the global transportation industry. SPE's Composites Division does the same with a focus on plastic-based composites in multiple industries. Topic areas include applications, materials, processing, equipment, tooling, design, and development. For more information see <https://speautomotive.com/> and <http://specomposites.org/>. For more information on the *Society of Plastics Engineers*, see www.4spe.org.



TROY (DETROIT), MICH. – Warden Schijve, Design Leader, AZL Aachen GmbH will present:

“OPPORTUNITIES FOR COMPOSITE MATERIAL IN FUTURE MULTI-MATERIAL BATTERY ENCLOSURES”

at the ACCE 2022 Event, September 7 – 9, 2022.

Bio: Warden Schijve is currently Design Leader at AZL Aachen GmbH, leading a team of senior engineers. His field of work involves concept design, CAE methods, cost analysis, composite processing, prototyping and industrialization. He led a one-year consortium project with 46 participating companies on multi-material battery casing designs. It yielded 20 different concepts designs, CAE analyzed to all relevant load cases and compared on cost and weight with a state-of-the-art metal design. Currently he’s also leading follow-up projects on battery pack fire safety and impact protection.

Before working at AZL, he was Chief Scientist Composites at SABIC, where he led application development for continuous-fiber thermoplastic composites. He was at the company for 15 years and previously was Group Leader Application Development for long, discontinuous fiber materials.

Before SABIC, he spent 10 years at DSM, starting as a Design Engineer and later working as Project Leader Material, Process, & Design Development for PP-LFT and other materials.

Earlier in his career he spent 11 years at Fokker Aircraft, where he began with conceptual design of thermoset composites and later became Project Leader Thermoplastic Composites.

About AZL:

AZL stands for excellence in lightweight production. As a one-stop shop for market- and technology know-how, the senior-staff of AZL brings together experts and decision-makers from academia and industry to support business and technology development for the lightweight industry. AZL supports companies, regardless of their position in the value chain, in the development, benchmarking and improvement of design methodologies, manufacturing techniques and products. AZL assists with innovation workshops, market- and technology analysis, trend identification and technology monitoring, feasibility studies, concept development, CAE design/optimization and production layout planning. Located in the heart of one of the leading high-tech ecosystems, RWTH Aachen University, AZL assist in experimental evaluation of all relevant technologies related to composite-based multi-material technologies with decades of technology expertise and cutting-edge infrastructure for the development of products and production systems. In addition to individual cooperation, the AZL Business, Business-Plus and Premium Partnership framework contracts offer access to services and an open-innovation network of more than 80 international companies along the lightweight value chain. With the three pillars advisory, engineering and partnership network, the AZL develops competitive innovations for economically highly relevant market segments and finds suitable partners for industrial implementation and establishment in the market.

For more information on AZL Aachen GmbH see <https://azl-aachen-gmbh.de/>